

# Service

---

## Contents

<b>1</b>	<b>Overview</b>	<b>3</b>
<b>2</b>	<b>Highlights of Service Leadership and Impact</b>	<b>3</b>
2.1	Broadening the Participation in CS: Recruitment Efforts . . . . .	4
2.2	Broadening the Participation of Women in CS . . . . .	4
2.3	Service to Research Community: Enhancing UTEP's Visibility . . . . .	7
<b>3</b>	<b>Evidence of Service to the University</b>	<b>7</b>
3.1	Departmental Service . . . . .	7
3.2	College Service . . . . .	8
3.3	University Service . . . . .	9
3.4	Student Advising . . . . .	9
<b>4</b>	<b>Evidence of Service to Research Community</b>	<b>11</b>
4.1	Editorial, Technical Committees, and Board Memberships . . . . .	11
4.2	Editorship . . . . .	11
4.3	Program Committee . . . . .	11
4.4	Paper and Book Review . . . . .	12
4.5	Conference / tracks / workshop chairing and organization . . . . .	13
4.6	Grant Proposal Review and Others . . . . .	13

4.7	Professional memberships . . . . .	14
4.8	Open Source Software and Other Web Resources . . . . .	14
<b>5</b>	<b>Evidence of Service to Community</b>	<b>14</b>
5.1	Service to the Local Community . . . . .	14

# 1 Overview

As I mentioned in my statement of philosophy, I see service as a crucial element of my work. I believe that service is necessary to support efforts in teaching and research. Service is also an essential component of being a professional: being an active and responsible citizen of my work place and research community. I seek to serve the university population: faculty and students, as well as researchers in my community, and my local community, as best as I can. I therefore dedicate to it a significant portion of my time and I seek, through my service, to implement the access and excellence mission of UTEP through a range of activities.

Since 2012, I have been active at all of these levels. I have participated in the governance of my institution, from the department's level to the UT system level (through my involvement in the Faculty Senate as Vice-President). In my research community, I have organized a major international conference and annual workshops with my colleague Vladik Kreinovich: NAFIPS'2016, CoProD'12 to '17, and with colleagues in Europe, S. Bistarelli, F. Santini, E. Monfroy, ACM SAC KRR'2018. I am also part of many program committees and I have reviewed for a number of journals, books, NSF panels, and other conferences as described further in this document. I became NAFIPS' president elect in January 2017. In my local community, I have been very active as advisory board member, speaker, open house host, judge, and mentor to high-school students with interest in computing.

At the local level (university and local community), I have put a special emphasis of my service on the recruitment and retention of students in computer science, and in particular, in broadening participation in computer science to under-represented minorities, with a special focus on women. My recruitment efforts are best illustrated by my involvement in outreach activities and programs, such as NCWIT Aspirations in Computing and the design of an Excites Summer Camp at UTEP. My retention efforts include the creation of a problem-solving club for entering CS students, but also my work on redesigning our UG program's introductory course to computer science, sponsored by Google and then by UTEP's STEM Accelerator program. Recently, our department, led by Ann Gates, received an NSF RED grant to reinvent our department into one that is more inclusive and promotes diversity and excellence. Through this project, I have invested a lot of my time and efforts in particular in the design of a new course on problem-solving, in collaboration with Google, based on my previous experience of a problem-solving club for entering students and a summer class on the same topic.

Through all the above activities, I always seek access and excellence: reaching out to as many as possible, impacting as many as possible, contributing to high-impact endeavors, seeking activities that broaden access to excellence for our students and our community, while maintaining a high-quality work and mentoring students to reach excellence.

## 2 Highlights of Service Leadership and Impact

Service being for me a pillar of effective teaching and research, in what follow, I illustrate my service on what was my main focus since 2012 on service to teaching and service to research: namely, my outreach efforts to increase the visibility of Computer Science and therefore our enrollment, my efforts on the recruitment and retention of women in Computer Science, and my service to my research community via conference organizations.

## 2.1 Broadening the Participation in CS: Recruitment Efforts

Sharing my passion about computer science is almost a hobby. So I am always happy to go out in the community and spread a good word or two about computer science, entice young students to consider activities in computing, and to show teachers how they can embed computational thinking and activities in their subject matter, even in social studies for instance.

As a result, I try to be very active locally, to build relationship with schools. For instance, I am happy to attend local events such as science fairs as it is an opportunity to see what young students are interested in, to talk to them, and to interact with their teachers as well. This makes it easier to then organize presentations and invite these schools to UTEP for a tour of our department including a lot of hands-on activities. In fact, I make it a requirement for any student joining my research group, to be active in outreach activities that the group takes on. Over the past two years only, my group, in collaboration with ACM-W (which I advise) and the College of Engineering's student ambassadors (headed by Gabby Gandara) have successfully hosted 6 day-long schools visits to our department filled with activities such as fun intro to programming, cryptography, robotics, etc. We also held an hour of code event at a local elementary and middle school in December 2016, reaching out to about 200 students.

Making sure that my outreach activities are sustainable is very important: I am lucky to have very enthusiastic students, in addition to my research group, at our local ACM-W chapter (that I advise), who made outreach the main mission of their chapter. They applied to and were granted two Google IgniteCS grants to support their outreach efforts at a local middle school and a local high school. Through these programs alone, they were able to reach out to about 200 young students and expose them to computer science.

I believe that outreach is complete only when you also take teachers into account. If teachers are convinced about the value of computational thinking and computing, and they have ways to integrate these in their classroom, many more things can be achieved than when we, as university faculty, go once in while to talk to students. For this reason, I seized the opportunity to give a webinar to all teachers from a school district of the El Paso area (Ysleta) about ways to integrate computing and computational thinking in their classrooms. This presentation was informed by my prior collaboration with a language teacher. We integrated coding in her classroom, with the help of my research group students: we had the students (several times over a few semesters) implement a video in the scratch programming language, whose audio and written content was in the foreign language taught in this class. With no prior knowledge of programming and with little help from my students, the high-school students were able to put together very nice videos and left the experience with the confidence that computer science was at their reach. I continued my effort with teachers by presenting similar content at an annual regional conference for teachers in 2014 and 2015. I plan to continue similar efforts. My efforts to reach out to teachers is complemented by my involvement in the NCWIT Aspirations in Computing, which is a program not only reaching out to young high-school women but also to their teachers, one of whom is selected as educator of the year locally and nationally.

## 2.2 Broadening the Participation of Women in CS

My CS recruitment efforts are doubled by my efforts to broaden the participation in Computer Science to Women. This is another passion of mine: I do not seek to attract all women to computer science, but I regret that computer science is often not offered to women and/or discarded as an

unattainable area for them. The results of this situation are expressed by a low number of women graduating with a degree in computer science (about 15%). I aim to change the conversation about computer science and show young women what it truly is and what they can do, if they were to elect or even just consider this area for a career. However, once women elect Computer Science as a major, keeping them in the major is also a challenge and part of my service efforts are also geared towards their retention. In what follows, I go over my work in the recruitment and retention of women in CS.

### 2.2.1 Recruitment of Women in CS

The recruiting efforts mentioned above also serve the purpose of informing women about computer science and changing the narrative about what they can, should, or cannot, should not choose as a career. However, in addition to the recruiting activities I mentioned before, I also lead efforts that are specifically (or mainly) targeted to women.

This is the case of the efforts of ACM-W through their Google IgniteCS funding. Although their work is open and addressed to all students of the classes they visit, their effort and the narrative they use is targeted towards women, gearing to addressing common biases and misconceptions. They also started a computing program for girl scouts. In addition, I catch any opportunity to talk to young women to inform them about CS. In fall 2016 (not in fall 2017 because I was out of town), during E-week at UTEP when high-school students were visiting UTEP everyday, I was able to talk to all the young women (and only women) in these groups, once a day during lunch. It was a great opportunity to reach out to about 100 young women in a week. This allowed me, in addition to presenting CS to these students, to promote a program I have led locally for the last 7 years: the NCWIT Aspirations in Computing program (AiC). This program aims to identify and recognize young women in high school who have interest in computing. Research shows that such students, even with interest in computing, are at a high risk of given up on their interest during their high-school years. NCWIT AiC makes sure that 1/ they get “patted in the back” for their interest, 2/ they realize that they are not alone (they meet the other local participant, and national participants if they win at the national level), and 3/ they become part of a select close group of likeminded young women who are or have been participants in the NCWIT AiC program. This outreach effort is very time consuming but I have seen its effects year after year and I cannot give it up. Over the years I have coordinated this program in El Paso, about 10 young women have joined UTEP CS or ECE. A good number of others did the same at our neighbor institution NMSU (New Mexico) and others have joined similar majors but at farther institutions.

In addition to the NCWIT AiC, I also hold summer internships for high-school students in my research lab: I have done that since 2010. Although the invitation is open and we have had young men as interns on occasion, we have mostly had young women interns. This is a result of my emphasis on such recruitment of students but also of the fact that I invite all NCWIT yearly participants to intern in my lab. Few of the NCWIT participants actually take on my offer: this is most of the times because they already have another plan for summer. These young women are very successful in general and know how to navigate the summer internship program maze very well, so they usually do not need the opportunity I offer to them. However, overall, since 2012, I believe that over the 20 high-school students I have had in my lab, at least 15 were women.

Finally, in summer 2015, I designed, with a colleague from Civil Engineering at UTEP, Ivonne Santiago, a week-long summer camp on civil engineering and computer science, for middle and high-school students (but mostly attended by middle-school students), as part of the Excites Summer

Camp program at UTEP. This summer camp was attended by about 250 students that summer and has been used again, but only as a computer science camp, every summer since then. Some of its activities are also used for school campus visits. Notably, this summer camp was originally designed for a girls-only camp. It was in fact used for a girls-only camp but much fewer times than it was for co-ed camps. Still, it was the original goal of it.

### 2.2.2 Retention of Women in CS

Attrition in Computer Science is a problem that goes beyond gender. However, the influx of women in our program is so little that any attrition in female CS majors can easily divide the participation of women by 2. Addressing the problem of the leaking pipeline of women in CS is one of the challenges that our department's NSF RED project set to tackle. My involvement in decreasing attrition is at different levels: 1/ through initiatives outside the classroom and 2/ through new courses or redesigned courses.

Outside the classroom, I have founded a local chapter of ACM-W in 2012. Since then, the chapter has been very active with outreach as outlined earlier. It has also put emphasis not only on outreach but also on serving its own constituents at UTEP via mentoring program that benefitted all levels of students (targeted for women originally): senior UG students would mentor entering UG, graduate students would mentor senior UG students, and professional women from the region would mentor graduate students and some senior UG students. This program was jumpstarted by an NCWIT Seed fund that our chapter applied to and received. It has continued beyond the original planned duration. As I value mentoring, I have also taken part in MentorNet. Although not for our own students directly at that time, I believe that any effort to help students go through CS, anywhere, is important.

Additionally, as I was teaching our Introduction to Computer Science course, a.k.a. CS1, I noticed that students needed to be more engaged outside the classroom and needed to up their skills in problem solving. I would often observe them struggling in class with problems that were at their reach: they just did not have enough practice to realize it. So I started a problem-solving club gathering students interested in furthering their skills in problem solving. Another goal of mine was to demonstrate to them that we could have fun with solving problems. It took one full semester to make this club "popular" but starting at the second semester, I started having more students attend. As a result, I decided to create a course on this topic, which was offered in summer 2016. It was successful and students reported learning a lot of skills valuable in their other courses. Subsequently, as part of the work conducted under our NSF RED project, I suggested to build a one-credit-hour course on problem solving. With the additional collaboration of Google Engineers and CAHSI<sup>1</sup> institutions, a new problem-solving course was created, as a special topic (CS1190) of one credit hour, to start with. I taught it successfully the first time over a 6-week period in fall 2017 and I am set to teach it again in the second part of fall 2017, as an opportunity to refine its delivery. This course, although part of my teaching portfolio, also belongs to my service activities as it is taught as service, on top of my regular teaching load.

~~redesign of CS1 once in fall 14 implemented in spring 15 once in spring 16 once in spring 17~~  
<sup>1</sup>CAHSI is the Computing Alliance for Hispanic Serving Institutions, led by Ann Gates at UTEP.

### 2.2.3 Retention of Women Faculty in CS

The retention of women in CS needs role models in the department. In 2016, a new committee was created in our department: it's our department committee on women, led by Natalia Villanueva-Rosales, which gathers all female faculty and instructors of our department to discuss how to change the departmental culture. This is one of the products of the NSF RED project led by Ann Gates. I am also, like all faculty in engineering, part of the WEST group that aims to be a support team for female faculty and students. WEST is part of WIN led by Patricia Nava.

### 2.3 Service to Research Community: Enhancing UTEP's Visibility

Serving my research community goes without saying. It is part of being a good citizen. As a result, I regularly review conference and journal articles, books (including textbooks), and grant proposals.

My efforts in this area can also serve my and UTEP's mission of access and excellence. Some activities help increase the visibility of UTEP, hence participating in the reputation of the institution, exposing students to visitors and research they might not have otherwise been exposed to, and eliciting excellence by modeling it. My work in organizing workshops and conferences allowed to expose my students to research done all over the world. This is the case of NAFIPS'16 organized at UTEP in which several of my students were very active helpers. This is again the case of the CoProD workshops that are held at UTEP (half of these are held at UTEP, half on the location of the international conference SCAN). Networking done and relationships built while working on such events, locally or abroad, allow to build collaborations that last. Lately, we invited Mark Stadherr to UTEP: my research students were able to have open sessions with him, asking many questions whose answers can help their own research and Mark Stadherr is going to join one of my PhD students' dissertation committee. Participating in committees such as the IEEE Technical Committee and being part of the board of directors of NAFIPS (the North American Fuzzy Information Processing Society) and now its President Elect are ways I can further serve my community and learn from to share with my students.

Participating in grant reviewing panels are also very important opportunities for me to better understand the agencies needs and to interact with program directors, hence increasing the possibility to get funding, which students benefit from.

## 3 Evidence of Service to the University

### 3.1 Departmental Service

1. Member of the **Faculty Evaluation Committee** – February 2015 – **present**. This committee gathers once a year in Spring to evaluate the annual portfolio of all faculty in the department. Our evaluation serves as a recommendation to the chair of our department.
2. Member of the **CS Undergraduate Curriculum Committee** – August 2013 – **present**.
3. **Chair** of the Undergraduate Fundamentals course sequence Committee – May 2015 – **present**. This committee oversees the content and pedagogy of our department's introductory under-

graduate courses, known as CS1, CS2, and CS3, which go from introduction to CS to data structures.

4. Founder and **advisor of the ACM-W chapter at UTEP** – June. 2012 to **present** As the ACM-W advisor, I have guided and supervised the ACM-W students in the following projects that were funded by NCWIT or Google:
  - NCWIT Seed Fund: in spring 2014 to develop a still existing mentoring program for CS UG students
  - Google IgniteCS program: in spring 2016, ACM-W was awarded its first Google IgniteCS project to put in place formal and informal program to teach computer science to young students at a middle school of El Paso. In spring 2017, they received their second award for a similar program at a high-school of El Paso.
  - In fall 2017, they are very active in helping with the NCWIT Aspirations in Computing program and they are working on developing and submitting a Google First project.
5. Member of the **Computer Science Advancement of Women in Computing** committee – August 2015 – **present**
6. **Academic advisor to undergraduate students** – between 40 and 50 per semester (see more on this below)
7. In charge of the **Computer Science Department's course schedule** – 2007 to Spring 2010 and August 2012 – **January 2017**.
8. **Chair of the Programming Languages course Committee** – August 2013 – May 2015.
9. **Webmaster** of the Computer Science website – August 2011 – August 2014.
10. Part of the **CS ABET preparation Committee** – September 2012 – Fall 2013
11. **Chair of the 2013 CS Faculty Search Committee** – August 2012 May 2013

### 3.2 College Service

1. Member of the **WIN Program** in Engineering at UTEP. Since 2012. WIN stands for Women In eNginering. This program aims to serve an overarching group to oversee several of its programs that are specifically dedicated to: all women in the College of Engineering at UTEP (WINgineers), female faculty in engineering at UTEP (WEST: see below), and female professionals in engineering careers (WEPP).
  - Member of the **WEST, Women in Engineering Support Team**. Fall 2012 – **present**.
2. Member of a team part of the **NCWIT Extension Services** (along with Ann Gates, Miguel Velez-Reyes, Pat Nava, Gabby Gandara) who worked on **increasing the number of female students in Computing**. Fall 2012 – Summer 2014.
3. Member of the **Task force on Faculty Success**. March 2013 – **present**.
4. Member of the **Facilitation Team For Information and Security**. September 2011 – November 2012.



### 3.3 University Service

1. Member of **COURI's Board of Advisors**: COURI is the Campus Office for Undergraduate Research Initiatives at UTEP – March 2015 – **present**. Twice a year, this office on campus offers scholarships to undergraduate students who plan to conduct research. COURI's board is in charge of reviewing the students' applications. In addition, the board is in charge of monitoring the progress of this entity on campus.
2. Member of the **Executive Council of the Faculty Senate** as representative of UTEP's College of Engineering – September 2015 – August 2017
3. **Vice-President of the Faculty Senate**. September 2014 – August 2015.
4. Member of the **Executive Council of the Faculty Senate** – as **Secretary** (September 2012 – August 2014) as such:
  - Representative of this council on the IT standing committee of the Faculty Senate (2013-2014)
  - Representative of this council on the UGCC and Student Grievance Committee standing committee of the Faculty Senate (2014-2015)
5. Member of the **Executive committee of the Computational Sciences Program** – September 2008 – June 2015.
6. Member of the **Board of the Women's Resource Center** (now Student Resource Center) – September 2011 – August 2014.
7. Member of **UTEP's Undergraduate Curriculum Committee** (standing committee of the Faculty Senate) – September 2011 – August 2014
8. **Member of the Computational Sciences Faculty Search**. September 2013 – April 2014.
9. Member of the **Women's Advisory Council to the President, as past chair**. Jan. 2013 – Dec. 2013
10. Member of **UTEP's Mama PhD** group – September 2010 – **present**.

### 3.4 Student Advising

#### 3.4.1 Undergraduate advising

In our department at UTEP, all faculty advise undergraduate students once a semester. It is a great opportunity for us to discuss their performance, their goals, and to advise them about their next steps, academically and also professionally. We also encourage students to take advantage of the students organizations in our department to further engage in the life of our department. Finally, I discuss research with all students, encouraging them to seek research opportunities, whether year-round or at least in summer.

Over the years, the number of students we advise each semester has somehow fluctuated. However, it was around 30 students per semester. Recently, with the growth of our undergraduate enrollment, we have observed a growth in the number of students we need to advise each semester. We are currently slightly above 50 students to advise each semester.

Each advising session is supposed to last about 15 to 20 minutes. On occasion it lasts longer if the situation of the student being advised is more complicated. As a result, it can take a while to advise all of these students. However, I find these sessions to be a fantastic way to reach out to students who might not otherwise seek contact with their professors, and as a result, may not get crucial information beyond academics (such as information about internships, research, student organizations, etc.).

### 3.4.2 Research advising

I dedicate a large part of my efforts advising students conducting research under my supervision. As mentioned in my research document, I supervise students in my research group CR2G. Since 2012, I have supervised **2 post-doctoral** researchers: **13 Ph.D. students**: 6 whom I directly advised, 2 of whom graduated and another one is about to (fall 2017); 1 whom I advised while he had joined my research team but whose actual advisor was Vladik Kreinovich; and another 6 Ph.D. students for whom I served as a committee member; **10 Master's students**: 6 whom I directly advised, 5 of whom graduated; and another 2 whom I advised during their visit at UTEP (international visiting students) and 2 for whom I served as a committee member; **22 undergraduate students**; and about **20 high-school students**. Notably, my former post-doctoral researcher is now a faculty member at St. Thomas University in Florida, and one of my former Ph.D. students is now a faculty member at the University of Cali in Colombia. Currently, I supervise 1 post-doctoral researcher, 3 PhD students, and 9 undergraduate students. I hope to recruit a Master's student in the spring.

Besides, each summer since 2010, via a program of our College called NEXUS, I invite and supervise high-school students (mainly young women) who participate in my research lab as interns. We train them to solve problems, program (in Java, Matlab, we teach them how to use the command line); we have them work on two projects of their choice, and we involve them in our research as testers of our algorithms. They also learn how to present their work because as members of my group, they have to present at our weekly meetings. Since 2012, about 20 students have been involved in my group as interns. I have maintained a mentoring relationship beyond summer with some (even if few) of them.

I am also involved in advising students as part of their thesis or dissertation committees, or as host of summer (or longer) internships. In particular, I have co-advised two students from ENSTA, France (advisor: Luc Jaulin), interning in the TRACS lab at UTEP for five months from April 2014 to August 2014, and three months in summer 2016 (TRACS is the lab on Theoretical Research driven by Applications in CS, which includes my research group CR2G: [cr2g.constraintsolving.com](http://cr2g.constraintsolving.com)). I have also been a committee member for 8 students at UTEP. I have been an external reviewer of a PhD dissertation for the Computer Science program at the University of Pierre and Marie Curie (Paris 6), France, in fall 2017. Finally, I have also been an external reviewer of a PhD dissertation for the Executive Board of the Italian Association for Logic Programming (GULP), 2012.

## 4 Evidence of Service to Research Community

### 4.1 Editorial, Technical Committees, and Board Memberships

- Vice-President of **NAFIPS**, January 2017 – December 2019 (NAFIPS is the North American Fuzzy Information Processing Society)
- Member of **NAFIPS’ board of directors**, since March 2011
- Member of **IEEE Technical Committee on Soft Computing**, since March 2016
- Member of the Springer **Soft Computing Journal Editorial Board** (November 2011 – January 2013).

### 4.2 Editorship

- **Journals’ Special Issues**
  - Co-editor, a special issue of **Journal of Uncertain Systems on Uncertainty, 2016, Vol. 10**; with Vladik Kreinovich
  - Co-editor, a special issue of **Journal of Uncertain Systems on Uncertainty, 2015, Vol. 9**, No. 2; with Vladik Kreinovich
  - Co-editor, a special issue of **Journal of Uncertain Systems on Uncertainty, 2014, Vol. 8**; with Vladik Kreinovich
  - Co-editor, a special issue of **Journal of Uncertain Systems on Uncertainty, 2013, Vol. 7**, No. 3; with Vladik Kreinovich
  - Co-editor, a special issue of **Journal of Uncertain Systems on Uncertainty, 2012, Vol. 6**, No. 2; with Vladik Kreinovich
- **Edited Research Books**
  - Martine Ceberio and Vladik Kreinovich (eds.), “**Constraint Programming and Decision Making: Theory and Applications**”, Springer Verlag, Berlin, Heidelberg, 2017.
  - Martine Ceberio and Vladik Kreinovich (eds.), “**Constraint Programming and Decision Making**”, Springer Verlag, Berlin, Heidelberg, 2014.

### 4.3 Program Committee

- **Program chair**
  - Co-chair and co-program chair of **NAFIPS’2016** ([nafips.cs.utep.edu](http://nafips.cs.utep.edu))
  - Program and general co-chair of the **CoProD workshop series since 2008** (<http://coprod.constraintsolving.com>), with Vladik Kreinovich (UTEP)
  - Co-chair of the **ACM SAC (Symposium on Applied Computing) Knowledge Representation and Reasoning (KRR) 2016, 2017**

- Co-program chair of **NAFIPS’2012** and **NAFIPS’2014**
- **Member of program committee**
  - **RCRA 2017** (Rappresentazione della Conoscenza e Ragionamento Automatico)
  - **IAE/AIE 2017** (International Conference on Industrial Engineering, Other Applications of Applied Intelligent Systems)
  - **FLAIRS-29** (the Florida AI Research Society)
  - **IJCAI’15, ‘13** (International Joint Conference in Artificial Intelligence).
  - **MICAI’13** (Mexican Conference in Artificial Intelligence).
  - **WSCS’13** (World Conference on Soft Computing).
  - **WEA’12** (Workshop on Engineering Applications).
  - **M-PREF’12, ‘13, ‘14, ‘15** (international workshop at ECAI’12 & ’13– European Conference on Artificial Intelligence) & ’15 at IJCAI 2015
  - **NAFIPS’15** special session on Interval Computations.
  - **Workshop on Intelligent Personalization (IP)** — Joint Workshop on Constraints and Preferences for Configuration and Recommendation (CPCR) and Intelligent Techniques for Web Personalization (ITWP) at IJCAI 2015

#### 4.4 Paper and Book Review

Since 2012, I reviewed articles for **conferences and workshops** including:

- **ACM SAC** (Symposium of Applied Computing) (for the CSP track),
- **NAFIPS** (North American Fuzzy Information Processing Society),
- **ECAI** (the European Conference on Artificial Intelligence),
- **FIE** (the Frontiers In Education conference),
- **IJCAI** (the International Joint Conference in Artificial Intelligence),
- **Workshops at CP**,
- **Mexican International Conference on Artificial Intelligence** (MICAI) 2011, 2012, 2013,
- **PPAM** 2013, 2015,
- **Workshop on Engineering Applications** (WEA), 2012,
- **FLAIRS** 2016,
- **FuzzIEEE** 2016, 2017,
- **ICTCS** 2014 (the Italian Conference on Theoretical Computer Science),
- **AI\*IA** 2016 (the XV International Conference of the Italian Association for Artificial Intelligence),

I also reviewed articles for the following **journals and books**:

- Journals:
  - Reliable Computing,
  - INFORMS Journal on Computing,
  - Information Science,
  - Journal of Experimental and Theoretical Artificial Intelligence,
  - the Annals of Mathematics and Artificial Intelligence,
  - Artificial Intelligence,
  - Special Issues of Soft Computing,
  - Journal of Logical and Algebraic Methods in Programming,
  - Transactions on Mathematical Software,
  - AAAS-Science.
- Book:
  - Hybrid Computing & Intelligence: Research and Applications, Morgan Kauffman (publishers)

#### 4.5 Conference / tracks / workshop chairing and organization

- **International conferences**
  - Co-chair and co-program chair of **NAFIPS'2016** ([nafips.cs.utep.edu](http://nafips.cs.utep.edu))
- **International workshops**
  - Program and general co-chair of the **CoProD workshop series since 2008** (<http://coprod.constraintsolving.com>), with Vladik Kreinovich (UTEP)
- **Tracks at international conferences**
  - Co-chair of the **ACM SAC (Symposium on Applied Computing) Knowledge Representation and Reasoning (KRR) 2016, 2017, 2018**

#### 4.6 Grant Proposal Review and Others

I participated in five several NSF panels since 2012:

- Proposal Reviews: Member of NSF panels in 2012, 2013, 2014, 2015, 2017 (CISE).
- Other Reviewing Assignments:

- Grace Hopper Conference: reviewer of 2014 scholarship applications
- DoD 2014 Star Award reviewer
- NCWIT Collegiate Award reviewer 2015, 2016
- NCWIT Educator Award reviewer 2015

#### 4.7 Professional memberships

- Member of ACM (Association for Computing Machinery)
- Member of ACM-W (ACM's committee on Women)
- Member of INFORMS
- Member of IEEE
- Member of AAAS (American Association for the Advancement of Science)
- Member of the **board of directors** of the North American Fuzzy Information Processing Society (NAFIPS) since March 2011

#### 4.8 Open Source Software and Other Web Resources

- Designer of <http://numconsol.cs.utep.edu>
- Designer and webmaster of the **community website** <http://www.constraintsolving.com>
- Released the NumConSol solver on constraintsolving.com for multiple platforms

### 5 Evidence of Service to Community

#### 5.1 Service to the Local Community

- **Advisory Boards' membership**
  - Board of advisors of Bel-Air's T-STEM Academy (since 2017)
  - Board of advisors of Parkland's T-STEM Academy (since 2015)
  - Board of advisors of Harmony Science Academy of El Paso (since 2012)
  - Board of advisors of Eastlake High School CSE program (2015)
  - Board of advisors of Saint Patrick's Elementary and Middle School – 2013 to 2017
- **Faculty advisor** for summer research projects for high-school students (2010, 2011, 2012, 2014, 2015, 2016, 2017)
  - Nexus program at UTEP:  
*Notably: an unprecedented high-number of interns participated in summers 2014 and 2016: 7 female high-school students)*

- **NCWIT Aspirations in Computing Regional Affiliate Competition Coordinator**
  - Coordinator of the El Paso affiliate since fall 2015
  - Coordinator of the El Paso/Las Cruces affiliate from 2011 to spring 2014  
*15 schools of El Paso/Las Cruces and the wider area have participated in the competition, and over 50 young women have been honored.*
- **Presentations about computer science** I regularly give presentations about computer science, at UTEP or at various schools of the El Paso area. In particular, in fall 2016, I gave talks to high-school young women every day of our e-Week, reaching out to about 100 women in one week. In addition, some of my past talks include the following:
  - Presentation to the Girls-Who-Code group from Harmony Science Middle School of El Paso – UTEP, May 2017
  - Contributed presentation at the Teacher Networking Technology Conference in November 2015 in El Paso about “Computational Thinking in the Classroom”. Audience: about 35 teachers from all disciplines, from K-12.
  - Presentation to an all-girls summer camp at Fab Lab El Paso – June 2016
  - Presentation to doctorate students about being a professor in computer science, May 2015
  - Presentation at Harmony Science Academy of El Paso about computer science and careers (December 2014)
  - Contributed presentation at the Teacher Networking Technology Conference in October 2014 in El Paso about “Coding your way through school”. Audience: about 50 teachers from all disciplines, from K-12.
  - Presentation to the Clint Independent School District about Computer Science, May 2014
  - Invited speaker for a Webinar for all teachers of Ysleta School District about how they can bring computer science in their classroom and what they can do if they are CS / math teachers, March 2014
  - Invited speaker at the New Mexico Celebration of Women in Computing, Las Cruces, NM (November 2012).
- **Career Fairs/Days presenter:**
  - Girls Powered Event presenter at Eastwood High School in El Paso (October 2017)
  - Girls Powered Event presenter at Eastwood High School in El Paso (October 2016)
  - Ibero Academy: Presentation about Computer Science to Kindergarteners, 1st graders, and 2nd graders (May 2014)
  - Loretto Academy of El Paso – all-girls middle and high school (April 2011, April 2012, April 2014)
- **UTEP tours and open house events**
  - Hosted a day of Computer Science for Bel-Air High School in June 2017 (about 50 students)

- Hosted a day of Computer Science and Engineering for Saint Patrick’s Elementary School
    - 3rd to 5th grade – in May 2017 (about 60 students)
  - Hosted a day of Computer Science and Engineering for Saint Patrick’s Middle School in December 2016 (about 80 students)
  - Hosted a day of Computer Science for Bel-Air High School in May 2016 (about 50 students)
  - Participates in UTEP’s Orange and Blue Days, and other events such as Open houses annually
  - Regularly prepare presentation material and train my research team students to give overviews of CS to visiting students.
- **High-school classroom innovation:**
    - Computer Science and Language Learning, Loretto Academy of El Paso (Fall 2013).
- **Judge:**
    - Science Fair judge at Harmony Science Academy Middle School, El Paso, February 2017.
    - Science Fair judge at St Patrick’s Elementary and Middle School, El Paso, February 2016 and 2017.
- **Other**
    - Mentornet mentor in 2012 and 2013
    - Faculty advisor of the Harmony Science Academy Alumni Association at UTEP since 2015